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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,606	07/05/2001	Chang-Hoi Koo	678-700 (P9856)	4060

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EXAMINER	
LELE, TANMAY S	

ART UNIT	PAPER NUMBER
2684	6

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/899,606	KOO ET AL.	
	Examiner	Art Unit	
	Tanmay S Lele	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1 – 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited (note that the abstract here is 205 words). The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 – 3, 5 –11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 5, 6, and 9 it was not understood what was meant by, "...receiving data blocks retransmitted by the transmitter as many times as the retransmission frequency...". For purposes of examination it was assumed the data blocks would be received at the retransmission frequency (as this could be interpreted as the message would be resent according the value of the resend frequency which could equate to the message being resent a very high number, assuming standard megahertz frequencies). Appropriate clarification and correction are required.

Claims 2, 3, 7, 8, 10, and 11 are rejected for at least the reasons cited for the above independent claims for which they depend upon.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al. (Khan, US Patent Application Publication Number 2001/0056560) in view of Dorenbosch et al. (Dorenbosch, US Patent No. 5,801,639).

Regarding claim 1, Khan teaches of a method for retransmitting data in a mobile

communication system (Figure 3B), comprising the steps of: determining whether an initial data block received from a transmitter has an error (paragraph 0014); estimating a current channel state upon detecting an error in the initial data block (paragraph 0014 and paragraph 0037); transmitting a retransmission request message of the initial data block to the transmitter (paragraph 0014, 0016, and 0037); receiving data blocks retransmitted by the transmitter in response to the retransmission request message (paragraph 0015); determining whether the retransmitted data blocks have errors (paragraphs 0014 – 0016 and 0037); and providing the received data blocks to an upper layer upon failure to detect errors from the received data blocks (paragraph 0006, 0037, and 0045).

Khan does not specifically teach of determining a retransmission frequency according to the estimated current channel state; as many times as the retransmission frequency; [transmitting a retransmission request message of the initial data block] together with the determined retransmission frequency [to the transmitter] (though does teach of transmitting information within the ACK/NACK in paragraph 0040, 0041, for example; note the brackets are provided for clarity in language and it is respectfully believed these limitations have been addressed in the above cited).

In a related art dealing with optimization of wireless messaging, Dorenbosch teaches of determining a retransmission frequency according to the estimated current channel state (column 5, lines 52 – 67 and column 4, lines 50 –62); as many times as the retransmission frequency (column 5, lines 52 – 67 and column 4, lines 50 –62); and [transmitting a retransmission request message of the initial data block] together with the determined retransmission frequency [to the transmitter] (column 5, lines 52 – 67 and column 4, lines 50 –62).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan's measurement based automatic retransmission request system, Dorenbosch's channel selection based on signal quality measurement results, for the purposes of using noise interference measurements at specific locations to reliably transmit messages to users, as taught by Dorenbosch.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al. (Khan, US Patent Application Publication Number 2001/0056560) in view of Dorenbosch et al. (Dorenbosch, US Patent No. 5,801,639) as applied to claim 1 above, and further in view of Lappeteläinen et al. (Lappeteläinen US Patent No. 6,760,877).

Regarding claim 2, Khan in view of Dorenbosch teach all the claimed limitations as recited in claim 1. Khan further teaches of measuring an average received power level of the initial data block and each of the received data blocks, and selectively combining only the data blocks upon failure to detect errors (Figure 4 and paragraph 0038 and 0037).

Khan in view of Dorenbosch do not specifically teach of having an average power level higher than or equal to a predetermined reference power level (though Khan does teach of re-transmission when errors are detected with respect to Figure 4 and signal quality measurements, C/I and BER for example, in paragraph 0037).

In a related art dealing with error correction and acknowledgement of transmissions, Lappeteläinen teaches of having an average power level higher than or equal to a predetermined reference power level (starting column 9, line 53 and ending column 10, line 6).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan and Dorenbosch's wireless acknowledgment system, Lappeteläinen's power

level thresholds, for the purposes of monitoring the level of errors with respect to received power levels, thereby decreasing the need to unnecessarily change channels, as taught by Lappeteläinen.

Regarding claim 3, Khan in view of Dorenbosch and Lappeteläinen teach all the claimed limitations as recited in claim 2. Khan and Lappeteläinen further teach of discarding the data blocks having an average power level lower than the reference power level (Khan: Figure 4 and paragraphs 0037 and 0038 and Lappeteläinen: starting column 9, line 53 and ending column 10, line 6).

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al. (Khan, US Patent Application Publication Number 2001/0056560) in view of Lappeteläinen et al. (Lappeteläinen US Patent No. 6,760,877).

Regarding claim 4, Khan teaches of a method for retransmitting data in a mobile communication system(Figure 3B), comprising the steps of: receiving a plurality of data blocks retransmitted due to an error occurring in an initial data block (paragraph 0014 and 0015); measuring an average received power level of each retransmitted data block (Figure 4 and paragraph 0037 and 0038); and combining the received data blocks (Figure 4 and paragraph 0037 and 0038).

Khan does not specifically teach of comparing the average received power levels with a predetermined reference power level and [combining the received data blocks] having an average power level higher than or equal to the reference power level (though Khan does teach of re-transmission when errors are detected with respect to Figure 4 and signal quality measurements,

C/I and BER for example, in paragraph 0037; note the brackets again have been added for clarity in language).

In a related art dealing with error correction and acknowledgement of transmissions, Lappeteläinen teaches of comparing the average received power levels with a predetermined reference power level (starting column 9, line 53 and ending column 10, line 6)and [combining the received data blocks] having an average power level higher than or equal to the reference power level (starting column 9, line 53 and ending column 10, line 6).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan's wireless acknowledgment system, Lappeteläinen's power level thresholds, for the purposes of monitoring the level of errors with respect to received power levels, thereby decreasing the need to unnecessarily change channels, as taught by Lappeteläinen.

9. Claims 5 –11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khan et al. (Khan, US Patent Application Publication Number 2001/0056560) in view of Dorenbosch et al. (Dorenbosch, US Patent No. 5,801,639) and further in view of Lappeteläinen et al. (Lappeteläinen US Patent No. 6,760,877).

Regarding claim 5, Khan teaches of a method for retransmitting data in a mobile communication system (Figure 3b), comprising the steps of: estimating a current channel state (paragraph 0014 and paragraph 0037), and transmitting a retransmission request message with the version number and the sequence number upon detecting an error in a received initial data block (Figure 4 and paragraph 0038); receiving data blocks retransmitted in response to the retransmission request message (paragraph 0014 and 0015); measuring an average power level of

each received data block (Figure 4 paragraphs 0014, 0037, and 0038); and combining the received data blocks (Figure 4 and paragraph 0037 and 0038)

Khan does not specifically teach of determining a retransmission frequency according to the estimated channel state, and [transmitting a retransmission request message] with the determined retransmission frequency; [receiving data blocks retransmitted] as many times as the retransmission frequency in response to the retransmission request message; comparing the average power levels with a predetermined reference power level; and [combining the received data blocks] having an average power level higher than or equal to the reference power level (though does teach of transmitting information within the ACK/NACK in paragraph 0040, 0041, for example and does teach of re-transmission when errors are detected with respect to Figure 4 and signal quality measurements, C/I and BER for example, in paragraph 0037; note the brackets are provided for clarity in language and it is respectfully believed these limitations have been addressed in the above cited)

In a related art dealing with optimization of wireless messaging, Dorenbosch teaches of determining a retransmission frequency according to the estimated channel state, and [transmitting a retransmission request message] with the determined retransmission frequency (column 5, lines 52 – 67 and column 4, lines 50 –62); and [receiving data blocks retransmitted] as many times as the retransmission frequency in response to the retransmission request message (column 5, lines 52 – 67 and column 4, lines 50 –62).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan's measurement based automatic retransmission request system, Dorenbosch's channel selection based on signal quality measurement results, for the purposes of using noise

interference measurements at specific locations to reliably transmit messages to users, as taught by Dorenbosch.

Khan in view of Dorenbosch do not specifically teach of comparing the average power levels with a predetermined reference power level; and [combining the received data blocks] having an average power level higher than or equal to the reference power level.

In a related art dealing with error correction and acknowledgement of transmissions, Lappeteläinen teaches of comparing the average power levels with a predetermined reference power level (starting column 9, line 53 and ending column 10, line 6); and [combining the received data blocks] having an average power level higher than or equal to the reference power level (starting column 9, line 53 and ending column 10, line 6; note further reference is made to packet id and version in column 12, lines 37 –55, for example).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan and Dorenbosch's wireless acknowledgment system, Lappeteläinen's power level thresholds, for the purposes of monitoring the level of errors with respect to received power levels, thereby decreasing the need to unnecessarily change channels, as taught by Lappeteläinen.

Regarding claim 6, Khan teaches of a method for retransmitting data in a mobile communication system (Figure 3b), comprising the steps of: estimating a current channel state and transmitting a retransmission request message to a transmitter according to the estimated channel state upon a receiver's detecting an error in an initial data block (paragraph 0014 – 0016); retransmitting the initial data block to the receiver upon the transmitter's receipt of the retransmission request message (paragraph 0014 – 0016); measuring, in the receiver, an average

power level of said each received data blocks (Figure 4 and paragraph 0037 and 0038); and selectively combining the data blocks (Figure 4 and paragraph 0037 and 0038).

Khan does not specifically teach of transmitting a retransmission request message with retransmission frequency information; [retransmitting the initial data block to the receiver] as many times as the retransmission frequency at the power level specified in the retransmission request message; and only the data blocks having an average power level higher than or equal to a predetermined reference power level, out of the retransmitted data blocks and the initial data block (though does teach of transmitting information within the ACK/NACK in paragraph 0040, 0041, for example and does teach of re-transmission when errors are detected with respect to Figure 4 and signal quality measurements, C/I and BER for example, in paragraph 0037; note the brackets are provided for clarity in language and it is respectfully believed these limitations have been addressed in the above cited)

In a related art dealing with optimization of wireless messaging, Dorenbosch teaches of transmitting a retransmission request message with retransmission frequency information (column 5, lines 52 – 67 and column 4, lines 50 –62); [retransmitting the initial data block to the receiver] as many times as the retransmission frequency at the power level specified in the retransmission request message (column 5, lines 52 – 67 and column 4, lines 50 –62 and column 3,lines 41 –50).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan's measurement based automatic retransmission request system, Dorenbosch's channel selection based on signal quality measurement results, for the purposes of using noise

interference measurements at specific locations to reliably transmit messages to users, as taught by Dorenbosch.

Khan in view of Dorenbosch do not specifically teach of only the data blocks having an average power level higher than or equal to a predetermined reference power level, out of the retransmitted data blocks and the initial data block.

In a related art dealing with error correction and acknowledgement of transmissions, Lappeteläinen teaches of only the data blocks having an average power level higher than or equal to a predetermined reference power level, out of the retransmitted data blocks and the initial data block (starting column 9, line 53 and ending column 10, line 6).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan and Dorenbosch's wireless acknowledgment system, Lappeteläinen's power level thresholds, for the purposes of monitoring the level of errors with respect to received power levels, thereby decreasing the need to unnecessarily change channels, as taught by Lappeteläinen.

Regarding claim 7, Khan in view of Dorenbosch and Lappeteläinen, teach all the claimed limitations as recited in claim 6. Khan in view of Dorenbosch and Lappeteläinen further teach of wherein the retransmission request message includes the retransmission frequency information (Dorenbosch: column 5, lines 52 – 67 and column 4, lines 50 –62), the power level information (Dorenbosch: column 3,lines 41 –50 and Khan: paragraph 0037) and packet ID (identification) information (Khan: paragraph 0038 and Figure 6 and 7b; Lappeteläinen: column 12, lines 37 – 55).

Regarding claim 8, Khan in view of Dorenbosch and Lappeteläinen, teach all the claimed limitations as recited in claim 6. Khan in view of Dorenbosch and Lappeteläinen further teach of wherein the receiver provides the received data blocks to an upper layer, if no error is detected from the received data blocks (Khan: paragraphs 0044, 0006, and 0037; Dorenbosch: starting paragraph 2, line 56 and ending column 3, line 6 and Lappeteläinen: column 1, lines 61 –63 and starting column 8, line 61 and ending column 9, line 7).

Regarding claim 9, Khan teaches of an apparatus for retransmitting data in a mobile communication system (Figure 3b), comprising: a receiver for (A) estimating a current channel state (paragraph 0014), (B) transmitting a retransmission request message for the initial data block, according to the estimated channel state (Figure 4 paragraph 0037 and 0038), (C) measuring an average power level of each data block received in response to the retransmission request message (Figure 4 paragraph 0037 and 0038), and combining only the data blocks (Figure 4 paragraph 0037 and 0038) (D); and a transmitter for retransmitting the initial data block in response to the retransmission request message from the receiver (paragraph 0014 and 0015).

Khan does not specifically teach of together with retransmission frequency information according to the estimated channel state; as many times as the retransmission frequency; and [combining only the data blocks] having an average power level higher than or equal to a predetermined reference power level, out of the initial data block and the retransmitted data blocks (though does teach of transmitting information within the ACK/NACK in paragraph 0040, 0041, for example and does teach of re-transmission when errors are detected with respect to Figure 4 and signal quality measurements, C/I and BER for example, in paragraph 0037; note

the brackets are provided for clarity in language and it is respectfully believed these limitations have been addressed in the above cited)

In a related art dealing with optimization of wireless messaging, Dorenbosch teaches of together with retransmission frequency information according to the estimated channel state (column 5, lines 52 – 67 and column 4, lines 50 –62); and as many times as the retransmission frequency (column 5, lines 52 – 67 and column 4, lines 50 –62).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan's measurement based automatic retransmission request system, Dorenbosch's channel selection based on signal quality measurement results, for the purposes of using noise interference measurements at specific locations to reliably transmit messages to users, as taught by Dorenbosch.

Khan in view of Dorenbosch do not specifically teach of [combining only the data blocks] having an average power level higher than or equal to a predetermined reference power level, out of the initial data block and the retransmitted data blocks.

In a related art dealing with error correction and acknowledgement of transmissions, Lappeteläinen teaches of and [combining only the data blocks] having an average power level higher than or equal to a predetermined reference power level, out of the initial data block and the retransmitted data blocks (starting column 9, line 53 and ending column 10, line 6).

It would have been obvious to one skilled in the art at the time of invention to have included into Khan and Dorenbosch's wireless acknowledgment system, Lappeteläinen's power level thresholds, for the purposes of monitoring the level of errors with respect to received power

levels, thereby decreasing the need to unnecessarily change channels, as taught by Lappeteläinen.

Regarding claim 10, Khan in view of Dorenbosch and Lappeteläinen teach all the claimed limitations as recited in claim 9. Khan and Lappeteläinen further teach of discarding the data blocks having an average power level lower than the reference power level (Khan: Figure 4 and paragraphs 0037 and 0038 and Lappeteläinen: starting column 9, line 53 and ending column 10, line 6).

Regarding claim 11, Khan in view of Dorenbosch and Lappeteläinen, teach all the claimed limitations as recited in claim 9. Khan in view of Dorenbosch and Lappeteläinen further teach of wherein the retransmission request message includes the retransmission frequency information (Dorenbosch: column 5, lines 52 – 67 and column 4, lines 50 –62), the power level information (Dorenbosch: column 3,lines 41 –50 and Khan: paragraph 0037) and packet ID (identification) information (Khan: paragraph 0038 and Figure 6 and 7b; Lappeteläinen: column 12, lines 37 –55).

Citation of Pertinent Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Inventor	Publication	Number	Disclosure
Beming et al.	US Patent	5,931,964	Method and arrangement for channel allocation in a radio communications system
Edwards	US Patent	6,078,815	Method and apparatus for allocating radio channels
Olofsson et al.	US Patent	6,167,031	Method for selecting a combination of modulation and channel coding schemes in a digital communication

			system
Anders Nyström et al.	US Patent	6,189,123	Method and apparatus for communicating a block of digital information between a sending and a receiving station
Chennakeshu et al.	US Patent	6,414,945	High power short message service using TDMA frames and/or broadcast control channel

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tanmay S Lele
Examiner
Art Unit 2684
tsl
August 25, 2004

NICK CORSARO
PRIMARY EXAMINER